314 permit attachment of the imaging coil 300 to an interface box (not shown). The imaging coil 300 may be connected to the interface box (not shown) by a micro coaxial cable 40 cm long. The micro coaxial cable may be terminated in a micro coaxial connector which is connected to the receptacle on the interface box. The decoupling circuit section of the flexible circuit 304 may be insulated by drawing a polyester heat shrink tubing over it. A tin-plated copper braiding, which is electrically connected to the shield of the micro coaxial cable, may be provided to shield the decoupling circuit during RF transmission of the MRI body coil. In addition to the polyester insulation, a thin layer of UV cure adhesive may be applied over the solder joints for mechanical stability and electrical insulation.

REMARKS

By the present amendment, Applicant provides minor corrections to the Specification. No new matter is added by this amendment.

No fees are considered due in connection with this matter. However, any necessary fees may be charged to Deposit Account No. 06-1448.

If there are any questions to the proposed amendments to the application, we invite the Examiner to call Applicants' representative at the telephone number below.

Respectfully submitted,
FOLEY HOAG & ELIOT LLP

Dated: November 2, 2001
Customer No. 25,181
Patent Group
FOLEY, HOAG & ELIOT LLP
One Post Office Square
Boston, MA 02109
Tel.: (617) 832-1000
Fax: (617) 832-7000

Scott E. Kamholz, M.D., Ph.D.
Reg. No. 48,543
Applicants' Agent

VERSION WITH MARKINGS TO SHOW CHANGES MADE

In the Specification:

Please replace the paragraph starting on page 13 at line 4 with the following paragraph:

~~--Figure 15 provides~~Figures 15 A and B provide a schematic diagram of an embodiment of an imaging coil adapted for use in a male urethra.--

Please replace the paragraph starting on page 28 at line 26 with the following paragraph:

~~--Figure 15 depicts~~Figures 15 A and B depict an embodiment of an imaging coil 300 according to the present invention advantageous for evaluating the male urethra, the prostate, and the surrounding tissues. In ~~this Figure~~these Figures, a flexible circuit antenna 304 is shown housed in a polymeric housing 318. In one embodiment, the housing 318 is provided with an oval lumen 320, shown in the cross-sectional view of Figure ~~15~~15B taken at the line a-a' on Figure ~~15~~15A. The orientation of the oval lumen 320 maintains the flexible circuit antenna 304 in a preselected orientation with respect to the patient's urethra and periurethral tissues. As has been previously described, the flexible circuit antenna 304 may include a copper trace etched on a flexible circuit that acts as the MR imaging coil. In one embodiment, the flexible circuit may be a single flexible circuit about 11 cm long. Also shown in Figure ~~15~~15A are other components of an MR imaging system according to the present invention. In this embodiment, tuning-matching capacitors 308 may be soldered onto the proximal and distal end of the imaging coil circuit to adjust the output of the coil to 50 ohm impedance. The output impedance of the coil 300 is matched to 50 ohms at 63.9 MHz, understood to be the frequency of the signal generated by the hydrogen protons. Impedance matching at 63.9 MHz, performed in a physiological saline solution, is accomplished by using two sets of capacitors, one in series (capacitance = 75pF) in the other in parallel (capacitance = 351 pF). One or more capacitors can be used to achieve their acquired capacitance. The pads for the capacitors maybe etched on the proximal and distal part of the imaging loop flexible circuit 304. In

one embodiment, "A" tape ceramic, non-magnetic, surface mount capacitors maybe used to match the output impedance to 50 ohms in a physiological saline solution at 63.9 MHz. The output from the tuning-matching circuit may be transmitted to the preamplifier (not shown) through a decoupling and a balun circuit. An active decoupling circuit for the depicted embodiment comprising a diode 310 may be built into the same flexible circuit to detune the coil during RF transmission by the MRI body coil, thereby to avoid decoupling artifacts in the images acquired and to prevent temperature increase in the area where the coil is positioned during clinical use. In one embodiment, the distal 5-20 cm of the imaging coil 300 may be inserted into the urethra. The remaining length of the coil 300 will remain external to the body. Located at the proximal end of the imaging coil 300 in the depicted embodiment may be a connector 314 such as a micro-BCN connector. This connector 314 permit attachment of the imaging coil 300 to an interface box (not shown). The imaging coil 300 may be connected to the interface box (not shown) by a micro coaxial cable 40 cm long. The micro coaxial cable may be terminated in a micro coaxial connector which is connected to the receptacle on the interface box. The decoupling circuit section of the flexible circuit 304 may be insulated by drawing a polyester heat shrink tubing over it. A tin-plated copper braiding, which is electrically connected to the shield of the micro coaxial cable, may be provided to shield the decoupling circuit during RF transmission of the MRI body coil. In addition to the polyester insulation, a thin layer of UV cure adhesive may be applied over the solder joints for mechanical stability and electrical insulation.--